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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,015	06/25/2001	Yasukazu Hayashi	109920	6678

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EXAMINER

PEREZ, GUILLERMO

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 04/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/887,015

Applicant(s)

HAYASHI, YASUKAZU

Examiner

Guillermo Perez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 20, 2003 has been entered.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellzey, Jr. (U. S. Pat. 5,541,463) in view of Applicant's admitted Prior Art (APA).

Ellzey, Jr. discloses a reluctance type resolver (figures 7-9,12) comprising:  
a stator (22d), constructed from a magnetic material, having:

- a plurality of excitation teeth (132d), each of which is wound by an excitation winding (140d);

a rotor (16b) having magnetic salient sections (52b,54b) that are placed to oppose the excitation teeth (132d); and

a detector (222) for detecting the position of the rotor (16b); wherein

the excitation winding (140d) is wound on each excitation teeth (132d) so that the magnetic fluxes through all excitation teeth (132d) have the same direction (refer to figure 9 and column 6, lines 6-11); and

the stator (22d) includes bypass magnetic path teeth (130d) passing a magnetic flux having a direction opposite to the direction of the excitation teeth (132d), wherein the bypass magnetic path teeth (130d) are not wound by the excitation winding (140d).

However, Ellzey, Jr. does not disclose that the detector for detecting the position of the rotor detects a current or voltage of the excitation winding which changes with different phase in response to motion of the rotor.

APA discloses that the detector for detecting the position of the rotor detects a current or voltage of the excitation winding which changes with different phase in response to motion of the rotor (page 3, lines 2-5) for the purpose of detecting the current flowing through each pair of excitation windings as a voltage signal.

It would have been obvious at the time the invention was made to modify the machine of Ellzey, Jr. and provide it with the detecting means disclosed by APA for the purpose of detecting the current flowing through each pair of excitation windings as a voltage signal.

2. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kolomeitsev (U. S. Pat. 5,777,416) in view of APA.

Kolomeitsev discloses a reluctance type resolver, comprising:

a stator (12), constructed from a magnetic material, having a plurality of excitation teeth (16), each of which is wound by an excitation winding (24a1,24a2);

a rotor (14) having magnetic salient sections (20) that are placed to oppose the excitation teeth (16), and

a detector for detecting the position of the rotor (14); wherein

each of the excitation windings (24a1,24a2) is wound on each of the excitation teeth (16) for a pair of adjacent excitation teeth (16) with the windings 24a1,24a2) such that the magnetic flux (figure 1) through each of the paired excitation teeth (16) has directions opposite to each other, and the excitation windings (24a1,24a2) for each pair of adjacent excitation teeth (16) are connected in series;

excitation teeth (16) are provided on the stator (12) so that the pitch of each excitation tooth (16) for each pair of adjacent excitation teeth (16) equals an integral multiple of the pitch of the magnetic salient sections (20) of the rotor (14); and

both excitation teeth (16) in each pair of excitation teeth (16) have the same phase for magnetic resistance change with respect to the motion of the rotor (14).

However, Kolomeitsev does not disclose that the detector detects a current or voltage of the excitation winding which changes with different phase in response to the motion of the rotor.

APA discloses that the detector for detecting the position of the rotor detects a current or voltage of the excitation winding which changes with different phase in

response to motion of the rotor for the purpose of detecting the current flowing through each pair of excitation windings as a voltage signal.

It would have been obvious at the time the invention was made to modify the machine of Kolomeitsev and provide it with the detecting means disclosed by APA for the purpose of detecting the current flowing through each pair of excitation windings as a voltage signal.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-2 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Perez whose telephone number is (703) 306-5443. The examiner can normally be reached on Monday through Thursday and alternate Fridays.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308 1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305 3432 for regular communications and (703) 305 3432 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

Guillermo Perez  
Thursday, April 10, 2003

  
NESTOR RAMIREZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800